PHYSICAL AND DIGITAL SECRET BALLOT SYSTEMS

ABSTRACT

Election automation systems are disclosed that allow plural entities, for example trustees, to ensure various
3 properties of an election, including correctness of the outcome, by initially using confidential information to form printed
ballots and transferring the ballots to voters. Later when voters electronically cast ballots, such as over networks, they use
the confidential information and optionally physical ballot structures to authenticate information provided them, including
6 information indicating whether their votes were received by the trustees. Voters can also use the information in ballots to
ensure the secrecy of their vote while it is transmitted to the trustees. The trustees can tabulate results while preventing
colluding subsets of trustees from being able to improperly modify the outcome of the election or violate the privacy of
9 individual voters.

Some embodiments secure printing from remote locations, authenticate users in distributed systems, authenticate
data to users in distributed systems, and address problems with conventional voter registration and absentee ballots.
12